PROJECT BUSINESS CASE

Project Name: STAGEnet Infrastructure Services
Project Short Name: *SIS 2006*
Agency: Information Technology Department (ITD)
Business Unit/Program Area: Telecommunications
Type of Project: Major enhancement/upgrade
Date: 2/24/2005
Version: 1.04 (Final)

Project Description:

ITD needs to bid out the network contract for the STAGEnet network. This project will be laid out in three phases. In the first phase, we will bring in a consultant to develop a vision document describing the future state of the network over the next 7-10 years and create a procurement strategy on how to bid that vision. In the second phase, the consultant will create the RFP, release & manage it, assist in evaluation, and create a selection document describing the reasoning behind the selection and providing cost/benefit information. The third phase is to manage the actual implementation of the successful bidder.

If the current provider wins the bid, then this last step will be fairly simple. If another provider is chosen, then this could become a fairly complex step. A successful bid should provide improved technology as part of the base infrastructure as well as increased bandwidth, low network latency, high availability and reliability, alternate access for small sights, among other factors.

Business Need/Problem:

The contract with the current infrastructure provider expires in June of 2006. In order to maintain our eligibility for e-rate funds, the state is required to go to bid after each contract period. In the years during the current contract, technology has changed and the needs of the state have also increased. ITD is looking to design a network that can grow with the state's needs over the next seven to ten years.

Some of the challenges the state is currently facing are:

- The overall network population and number of sites continue to grow.
- The network core has expanded and requires an architectural review for overall capacity.
- The demand for Virtual Private Networking (VPN) challenges the current design.
- Customer demand for bandwidth continues to grow.
- Video services continue to expand across the state.
- ATM services have been reduced with recent migrations to fiber.
- Universities have to limit Internet access due to current network costs/constraints.
- Applications are requiring increased bandwidth and lower latency (such as ConnectND and the Retirement and Investment Office's TTFR project.)
- Network security continues to demand changes and reconfigurations.
- The backbone is currently only accessible in Bismarck and Fargo while the demand for backbone access in other sites is increasing.

- Homeland security issues have brought new concerns to the network with respect to expanding disaster recovery, redundant connectivity, and possibly additional network hubs.
- IP Telephony and Voice-over IP (VoIP) is beginning to be used in state government.

In addition, the state recognizes that new technologies, such as MPLS, VLANs, and Lambda (light waves) are known to be generally available and we wish to explore how we may begin to take advantage of them. We wish to also explore the possibilities of wireless mobility access, increased access to fiber and expansion of broadband services for smaller sights.

The customers impacted by this include all of state government, the North Dakota university system, K-12 entities, and many political subdivisions.

Solution:

A contract for five to seven years will be signed by a provider. It will include expansion plans to grow with the state's needs. The contract will be implemented by July 2006, (with some overlap of coverage's if necessary.)

Ideally, the new contract would address all of the needs noted above using the newer technologies also noted. However, the state will need to balance those choices with cost effectiveness. That will be one of the primary tasks of the selection committee. Until the RFP's are evaluated, we will not be able to determine any more specific goals.

Consistency/Fit with Organization's Mission:

NDCC 54-59-08 requires ITD to provide wide area network services to all agencies, counties, cities, and school districts. This contract is for the infrastructure of that service.

Cost Benefit Analysis

Anticipated Benefits:

There is no option of not doing this project. The contract expires and ITD is required by law to provide the services. However, if not competitively bid, the state could stand to lose about $2 million annually in e-rate funds.

Exact benefits will be difficult to determine until the RFP's are evaluated. Worst case scenario is that we are only able to afford limited improvements over the current infrastructure. Best case scenario would include replacing the current ATM infrastructure with an independent Gigabit Ethernet rings preferably using Lambda technology. It would also include expansion of the number of STAGEnet Network Access Points (NAP's) and expanding the fiber portals into the backbone from other rural locations.

A more detailed benefit analysis will need to be performed as part of the selection process.

Cost Estimate:

We are currently budgeting about $110,000 for Phase 1. Overall actual costs will depend upon which provider is ultimately chosen. The overall contract could be up to $50 million over seven (7) years. Funding for this project is from multiple sources such as chargeback to the agencies, political subdivisions, and universities. Funding for the K-12 aspects is a combination of Federal E-Rate and State General funds.

Cost/Benefit Analysis:

By contracting a consultant to assist with the RFP, we are more likely to avoid challenges to our selection process. Since the current contract expires in July of 2006, there is very little room for delay. If we are not successful in bidding the contract out, we risk losing the e-rate funding from the federal government. As noted above, we currently receive about $2 million in e-rate funds annually. The consultant cost is less than 1% of the overall anticipated contract.

The rebid process also allows us to determine what infrastructure will be available to the state during the course of the next five to seven years.

Again, further analysis will need to wait until the RFP's have been evaluated.

Project Risks:

Risk 1: The desired state will not be available, or will not be affordable, requiring us to go out for a second RFP. **Mitigation:** Ensure the consultant developing the RFP is aware of the risk and develop the RFP in a way to allow us to lower our expectation without impacting a fair bid process.

Risk 2: Implementation timeline is too short for transition to new provider. **Mitigation:** Monitor consultant RFP schedule closely to ensure timelines initially laid out are met.

Risk 3: Requirements are not defined in a timely fashion delaying the release of the RFP. **Mitigation:** Monitor the RFP consultant's schedule closely and work with the consultant to ensure availability of ITD staff as necessary. We would like the consultant to be on-site for much of this portion of this project.

Risk 4: Migration causes significant outages for customers. **Mitigation:** Any transitions will need to be carefully planned to minimize the impact to the customer. Back-out processes will need to be planned in advance. Anticipate some overlap of services to minimize complete loss of service.

Risk 5: The provider is unable to deliver as proposed. **Mitigation:** In the short-term, a detailed implementation plan will be monitored to ensure the provider is meeting the required needs. The contract will also need to have penalties attached for failure to meet contractual obligations.